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December 18, 1998

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

VIA HAND DELIVERY

Magalie Roman Salas, Esq.
Secretary
Federal Communications Commission
1919 M Street, N.W.,
Washington, DC 20554

Re: Reported order 96-208 Amending Parts 2 and 15 of the Commission's
Rules to Deregulate the Equipment Authorization Requirements for Digital
Devices
ET Docket No. 95-19

Notice of Written Ex Parte Presentation

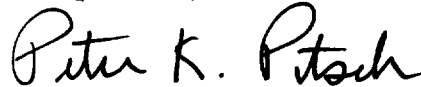
Dear Ms. Salas:

Today I sent the attached letter to Julius Knapp of OET. Previously, Intel has recommended that the FCC permit CPU boards to be tested under Part 15 of the FCC's rules with a cover on as long as the CPU boards were accompanied with appropriate installation instructions. This letter describes what the minimum requirements of such instructions accompanying CPU boards should be.

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Pursuant to Section 1.1206(b) of the Commissioner's Rules, an original and one copy of this letter are being submitted to the Secretary's Office and a copy is being provided to Julius Knapp. Please inform me if any questions should arise in connection with this filing.

Respectfully submitted,


Peter K. Pitsch

cc: Julius Knapp

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December 18, 1998

Julius P. Knapp
Chief
Policy and Rules Division
Office of Engineering and Technology
Room 425
FCC
2005 M. Street, NW
Washington, D.C

Dear Mr. Knapp:

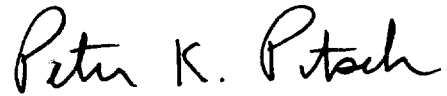
I am writing to follow up on the October 8, 1998 meeting that Doug Probstfeld and I had with you and others at OET regarding the costs and benefits of the FCC's Part 15 regulation of CPU boards. In that meeting Mr. Probstfeld suggested, among other things, that the FCC should permit CPU boards to be tested with their cover on as long as they were accompanied with the appropriate installation instructions.

This letter describes what the minimum requirements of such installation instructions should be. As you know Part 15.102(a) requires that installation instructions for CPU boards specify all the installation procedures that must be followed to ensure compliance with the Commission's standards. These specifications should include "the type of enclosure, e.g., a metal enclosure, proper grounding techniques, the use of shielded cables," etc. If the FCC were to permit CPU boards to be tested with the cover on, these installation instructions should also specify aperture sizes for seams and ventilating openings. It may also be helpful to identify at least one enclosure that would be acceptable or provide a list of suitable enclosures through a website, faxback site or phone number. I am attaching sample installation instructions that illustrate possible ways in which these informational requirements could be met.

The FCC might also determine that CPU board suppliers and other module suppliers should provide system integrators information explaining the general requirements of the FCC's related rules. This could assist many new businesses unaware of FCC Rules and improve compliance in cases of repair, upgrade & user installations. I am also attaching sample explanatory instructions for your consideration.

I hope this information is useful to your deliberations. Please do not hesitate to contact me if I can be of further assistance.

Sincerely yours,

A handwritten signature in black ink that reads "Peter K. Pitsch". The signature is written in a cursive style with a large, looped 'P' and a distinct 'K'.

Peter K. Pitsch
Director
Communications Policy

SAMPLE INSTALLATION INSTRUCTIONS FOR CPU BOARDS

The Mandatory EMI Installation Instructions for this CPU board are:

1. The enclosure for the CPU board must be metal or other equivalent EMI shielding protection material, e.g., *[identify some acceptable enclosures or a means of obtaining a current list of acceptable enclosures]*.
2. The enclosure must have no opening or unbroken seam larger than ____ mm. This necessitates:
 - a) Assuring that all seams for the enclosure, such as externally accessible drive assemblies, the outer shell cover, and I/O covers that form part of the enclosure are conductive rather than painted over.
 - b) Assuring all openings, such as ventilating openings, with dimensions larger than ____ mm, are provided with ribs or screens which limit the unbroken aperture size to less than ____ mm. This does not apply to PC power supply fan openings. *[Mr. Knapp, because of the presence of large, obstructive components such as transformers and capacitors, power supply fan openings are not a significant source of radiated emissions.]*
3. This CPU board must be grounded to the enclosure as described elsewhere in these instructions.
4. Ports A, B and D can be used with unshielded interconnecting cables. However, Port C must be connected only with a shielded cable using a connector which provides a bond to Port C around the entire connection.

If interference problems occur which may apply to this motherboard, contact the Responsible Party for this motherboard: *[name; address; e-mail address; and telephone numbers]*

SAMPLE EXPLANATORY INSTRUCTIONS

The FCC Rules for Computing Devices⁽¹⁾ apply to System Integrators who assemble motherboards, power supplies and enclosures into PCs which are sold or leased for use in residential areas. These Rules require that:

1. These assembled PCs must either:
 - Pass an EMI Test⁽²⁾, OR
 - Be assembled from FCC Compliant Modules⁽³⁾ exactly in accordance with the Mandatory Installation Instructions provided by the module manufacturer or importer.
2. The PCs must then be:
 - Marked with the FCC's "Assembled From Tested Components" marking⁽⁴⁾, AND
 - Provided with a "Declaration of Conformity"⁽⁵⁾, AND
 - Provided with "Instructions to the User"⁽⁶⁾, including identification of the "Responsible Party" should interference occur during operation.
3. System Integrators are required to keep "Records"⁽⁷⁾ which demonstrate compliance of their products to FCC Rules.

NOTES:

- (1) **FCC Rules:** Refer to Title 47 of the Code of Federal Regulations, Part 15. These Rules specify specific requirements for Computing Devices. There are additional General Requirements in Title 47, Part 2. Refer to <http://www.fcc.gov/oet/info/rules/part15> for a copy of Part 15. These requirements can be obtained from the U.S. Government Printing Office, Superintendent of Documents, Mailstop: SSOP, Washington, DC 20402-9328. For payment by credit card, call 202-512-1800, Monday thru Friday, 8 am to 4 pm EST, or fax to 202-512-2233 24 hours a day. For payment by check, write to the Superintendent of Documents, Attn: New Orders, P.O. Box 371954, Pittsburgh, PA 15250-7954.
- (2) **Requirements for testing EMI (Electromagnetic Interference)** are described in ANSI C63.4-1992, published by the Institute of Electrical and Electronics Engineers, 345 East 47th Street, New York, NY 10017. The allowable limits are specified in FCC Rules, Part 15, Section 15.107(a) for power line conducted emissions and Section 15.109(a) for radiated emissions... There are many privately owned EMI testing laboratories available. These labs must either be accredited by NVLAP (see <http://ts.nist.gov/ts/htdocs/210/214/fcctm.htm>) or A2LA (see <http://www.a2la.org>), or be listed on the FCC's list of test labs (see <http://www.fcc.gov/oet/info/database/testsite/ussite.txt> for US laboratories and <http://www.fcc.gov/oet/info/database/testsite/frgnsite.txt> for foreign test laboratories).
- (3) **FCC Compliant Modules** refer to PC modules or peripheral devices that have a significant impact on electromagnetic interference and are therefore must comply with the FCC Rules. Some of FCC's examples are keyboards, monitors, printers, add-in boards with external I/O ports, power supplies and motherboards (see Part 15, Section 15.3(r) for the definition of "peripheral" Refer to Part 15, Subpart A for an understanding of requirements applicable to module manufacturers.
- (4) **Artwork for the FCC markings** can be found in Part 15, Section 15.19(b)(1) .
- (5) Refer to Part 15, Section 2.906 .
- (6) See Part 15, Section 15.19(a)(3) for requirements for Instructions to the User. Requirements applicable to the "Responsible Party" are in Part 15, Sections 2.1071 through 2.1077.
- (7) Refer to Part 15, Section 2.1075(b) . Essentially, keep records of:
 - A. All configurations of products subject to FCC Rules.
 - B. The Declaration of Conformity" and "Instructions to the User" provided with each configuration.
 - C. The "Declaration of Conformity" and "Instructions to the User" that are provided with each FCC Compliant Module used in each configuration.
 - D. Proof of compliance with all instructions.